

IEEE Standard for Audio Program Level Measurement

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IEEE Standard for Audio Program Level Measurement

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IEEE Broadcast Technology Society**

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Abstract: Two audio program level measuring devices, the peak-program meter and the standard volume indicator, are described. The peak-program meter is intended to indicate the peak level of audio signals that the transmission or recording medium must accommodate if audible distortion is to be avoided. The standard volume indicator is intended to provide a means to assign numerical values to the average magnitude of audio program signals. The dynamic response requirements specified in this standard for the peak-program meter are identical to the normal mode European Broadcasting Union standard peak-program meter. This standard does, however, allow more flexibility for the selection of the scale.

Keywords: Peak-program meter, standard volume indicator.

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Foreword

(This foreword is not a part of IEEE Std 152-1991, IEEE Standard for Audio Program Level Measurement.)

The Audio Measurements Subcommittee (G-2.1.2) was formed on April 21, 1982, to revise the existing standard, IEEE Std 152-1953, *IEEE Recommended Practice for Volume Measurements of Electrical Speech and Program Waves*, to incorporate new technology and reflect current practice in the measurement of audio program levels. The resulting document describes two audio program level measurement devices, the peak-program meter and the standard volume indicator. The peak-program meter is intended to indicate the peak level of audio signals that the transmission or recording medium must accommodate if audible distortion is to be avoided. The standard volume indicator is intended to provide a means to assign numerical values to the average magnitude of audio program signals.

The dynamic response requirements specified in this standard for the peak-program meter are identical to the normal mode European Broadcasting Union standard peak-program meter (Tech. 3205 - E, 2nd Ed. — Nov. 1979). This standard does, however, allow more flexibility for the selection of the scale. Technical requirements for the standard volume indicator are identical to those of IEEE Std 152-1953.

An operational relationship between the peak-program meter and the standard volume indicator is achieved by adjusting the devices so that the same 1000 Hz sinusoidal signal produces a test level indication on the peak-program meter and a reference indication on the standard volume indicator. The peak-program meter typically provides indications 8 dB higher than the standard volume indicator for audio program signals, compared to their respective steady state indications for a 1000 Hz sinusoidal signal with equivalent peak amplitude. Users of peak-program meters and standard volume indicators are cautioned that the difference in the indication of levels on peak program meters and standard volume indicators will vary with audio program signals. The 8 dB value given is typical.

At the time that this standard was completed, the Audio Measurements Subcommittee (G-2.1.2) had the following membership:

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This document is dedicated to the memory of Hans Schmid, a founding member of the subcommittee and an outspoken broadcast engineer.

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